To: "Mike Chotkowski (Michael_Chotkowski@fws.gov)" [Michael_Chotkowski@fws.gov]; Michael.tucker@noaa.gov" [Michael.tucker@noaa.gov]; Scott Cantrell' [SCANTREL@dfg.ca.gov]; Carl Wilcox (CWilcox@dfg.ca.gov)" [CWilcox@dfg.ca.gov]; Matt Nobriga (Matt_Nobriga@fws.gov)" [Matt_Nobriga@fws.gov]; 'Roger_Guinee@fws.gov'" [Roger_Guinee@fws.gov]; atrick Coulston [PCoulston@dfg.ca.gov]; es Grober [lgrober@waterboards.ca.gov]
Cc: Gary Bobker [bobker@sbcglobal.net]; 'Jon Rosenfield, Ph.D.'" [jon.tbi@gmail.com]; Poole, Kate" [kpoole@nrdc.org]; Schmitt, Monty" [mschmitt@nrdc.org]; Leo Winternitz' [lwinternitz@TNC.ORG]
From: "Obegi, Doug"
Sent: Fri 8/3/2012 10:28:44 PM
Subject: Climate change effects on likelihood of water year type (SJI and SVI)
image003.png
CEC-500-2012-015.pdf

Hey guys,

I wanted to pass on this new paper prepared for the State of California on the effects of climate change on water year classifications. I believe this has substantial bearing on BDCP and the SWRCB's review of the Bay Delta WQCP (particularly over the longer term). Here's an excerpt of the abstract:

"Results vary by emissions scenario and global circulation model, but indicate that critically dry water years in the Sacramento Valley and San Joaquin Valley are expected to be about 8 percent and 32 percent more likely by the latter half of the twenty-first century, respectively, if water year type definitions remain unchanged. If current water year type thresholds are maintained, more years will be classified as dry and less water will be allocated for environmental outflows, perhaps failing to provide adequate hydrologic variability to support species, habitats, and ecosystems."

The graphs on pages 11-14 are not a pretty picture, with substantial changes already evident in the 2001-2050 period for the San Joaquin Index. Table 6 (reproduced below, from page 15 of the paper) shows the changes in the frequency of water year types over the 2001-2050 period and the 2051-2099 period:

[IMAGE]

In my opinion, this shifting baseline as a result of climate change is another good reason to move to using a percentage of unimpaired flows approach for delta outflow and other flow standards, rather than the current approach that varies based on water year type.

Hope this is helpful (albeit depressing).

Thanks,

Doug

Doug Obegi

Staff Attorney

Water Program

Natural Resources Defense Council

111 Sutter Street, 20th Floor

San Francisco, CA 94104

415.875.6100 (phone)

415.875.6161 (facsimile)